

Garth Kong

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Education

Master of Science | Bioinformatics and Genomics Jun 2018 – Dec 2019
University of Oregon. Eugene, OR

H. Bachelor of Science | Biochemistry and Biophysics Oct 2013 – Mar 2018
Chemistry minor
Oregon State University. Corvallis, OR

Bioinformatic Skills

Proficient Languages	Proficient with	Familiar with
Bash	Snake Make	Seurat
Python	Anaconda	SLURM
R	Pandas + Tidyverse	Parallel Processing
	ggplot2+ plotly	R Shiny / Dash

Work Experience

Computational Biologist | Dr. Julia Maxson | Oregon Health & Science University Jun 2020 – Present

- Provide generic and project-specific analyses to 5 bench scientists to drive projects forward.
- Develop, re-purpose, maintain, and test pipelines to analyze sequencing data like ATAC-Seq, ChIP-Seq, CITE-Seq, CUT&TAG, and RNA-Seq.
- Modify, adapt, and improve open-source bioinformatics tools to fit project objectives.
- Write the bioinformatic analysis methods for 2 upcoming papers and 2 conference papers.

Graduate Researcher | Stowers Institute Apr 2019 – Apr 2020

Dr. Nicolas Rohner Lab

- Discovered and validated 2 SNPs that lead to abnormal lens development in eye-less cavefish.
- Promptly delivered analysis reports by optimizing workflows from 73 days into 6 days.
- Frequently tailored explanations of complex variant-calling algorithms to an interdisciplinary team of 3 scientists; drafted the computational analyses section for the upcoming manuscript.

Dr. Alejandro Alvarado-Sanchez Lab

- Quantified an RNA-seq dataset (7 time points, 4 replicates) via python, bash, and R.
- Developed an RShiny app for 15 lab members to view gene expression by time and treatment.

Researcher | Dr. Karen Guillemin | University of Oregon

Oct 2018 – Apr 2019

- Analyzed single-cell RNA-Seq datasets (40K cells, 2 conditions, Seurat v2) in zebrafish raised with or without a microbiome to infer the effects of the microbiota on host development.
- Discovered and validating a family (50+ members) of mis-regulated developmental genes.
- Trained 1 seniorgraduate student in Linux and R to analyze their own dataset.

General Chemistry TA | Department of Chemistry | University of Oregon

Sept 2018 – Dec 2019

- Taught 30 students in the lab component of General Chemistry series, tutored students one-on-one, and resolved grading conflicts with students and head professor

Waiter | Thai Chili | Corvallis, OR

Oct 2017 – Jun 2018

- Worked in a team to help serve customers in the storefront, reported daily revenue, trained 4-5 employees, and frequently communicated with 70+ customers per shift.

Summer Equity Intern | Dr. Andrey Ryabinin | Oregon Health & Science University

Jul 2015- Aug 2015

- Investigated stress biomarkers in the Edinger-Westphal nucleus in voles during social isolation.
- Supported 1 graduate student by preparing 100+ mouse brain slices for fluorescent imaging.

Undergraduate Researcher | Dr. Ryan Mehl | Oregon state University

Jan 2015 – Jun 2017

- Investigated calmodulin binding partners \pm unnatural amino acids in whole animal tissue.
- 2 years of experience in synthetic and molecular biology techniques like: genetic code expansion, FRET, custom affinity chromatography, HIS-tagged protein purification, and *E. coli* cultures.
- Trained 1 undergraduate student to perform essential laboratory protocols.

Volunteer

Computational biology mentor | skoolMentor

Apr 2020 – Aug 2020

- Lead a team of 2 high school and 1 undergraduate students to detect genetic mutations in *Acinetobacter baumannii* that may confer antibiotic resistance to the drug rifabutin.
- Consistently communicated and incorporated feedback with program manager to adjust program timeline and material.

Publications

Olson, B., Zhu, X., Norgard, M. A., Diba, P., Levasseur, P. R., Buenafe, A. C., Huisman, C., Burfeind, K. G., Michaelis, K. A., Kong, G., Braun, T., & Marks, D. L. (2021). Chronic cerebral lipocalin 2 exposure elicits hippocampal neuronal dysfunction and cognitive impairment. *Brain, behavior, and immunity*, S0889-1591(21)00266-X. Advance online publication. <https://doi.org/10.1016/j.bbi.2021.07.002>